

***CTENOCHARES BICOLORUS* (L.),
AN AFRICAN ICHNEUMONID (HYMENOPTERA)
FOUND IN BRITAIN**

RICHARD A. JONES

*135 Friern Road, East Dulwich, London SE22 0AZ.
bugmanjones@hotmail.com*

Abstract. *Ctenochares bicolorus* (L.), an African ichneumonine species, was found in Battersea Park, London. Unusually for a mainly sub-Saharan species, it also occurs around the Mediterranean coast of Africa and Southern Europe. In the 1970s and 1980s it became established in Australia and New Zealand. It is known as a parasitoid of the noctuid moths *Chrysodeixis chalcites* (Esper)/*C. eriosoma* (Doubleday).

INTRODUCTION

On 6 July 2000, I caught a large and distinctive ichneumon as it hawked about in the low herbage of "Duck Island", one of three man-made islands on the ornamental lake in London's Battersea Park, TQ2877. Despite its striking appearance, identification using standard British keys (Perkins, 1959, 1960) failed to lead anywhere.

Ichneumonid expert Jim Brock of the Horniman Museum, Forest Hill, confirmed that it was not a hitherto known British species and was probably some introduced exotic. Ichneumon specialist Mike Fitton, of London's Natural History Museum, identified the specimen as a female of *Ctenochares bicolorus* (L.), a predominantly African species, which parasitizes noctuid caterpillars.

Several return visits to the park, its lake and its islands, failed to discover any further specimens of *Ctenochares*. A Malaise trap was set up on one of the other islands in the lake: "Goose Island" is larger and with a broad open area seemed a better site for such a flight interception trap. Despite many weeks of operation between July and September 2000, no further specimen of *Ctenochares* was found.

DESCRIPTION

Ctenochares bicolorus is unmistakable (Fig. 1), and easily distinguished from other British ichneumons by its characteristic wing and body colours.

A large (body length: 13 mm, wing length: 9 mm) brightly coloured species. Body mainly bright testaceous orange, except head, thoracic pleura and abdominal segments 4 onwards, deep black. Antennae with basal two-fifths orange, central fifth white and apical two-fifths black. Palps and legs orange, except coxae (especially hind pair) variously dark marked; hind femora black except basal fifth orange and hind tibiae darkened at apex. Front wing obscurely clouded with orange basally and abruptly blackened beyond the areolet (cell 2Rs). Hind wing clouded with orange between costa and first vein (Sc + R) and around anal lobe, and slightly blackened at tip. Scutellum with strong marginal carinae; mesoscutum also marginally carinate. Gaster closely and minutely punctured, except the petiole (tergite 2) which has strongly striate-sculptured gastrocoeli.

The insect is particularly striking in life, its dark wing-tips and black tail contrasting starkly with its bright orange body. At rest, or when running about the herbage, with wings held back over its body, the blackened wing-tips perfectly coincide with the apical black abdominal segments.



Fig. 1. *Ctenochares bicolorus* (L.), female, Battersea Park, London, 6.vii.2000.

DISCUSSION

Ctenochares bicolorus is fundamentally an African ichneumonine. It is mainly a sub-Saharan species, recorded widely from Ivory Coast to Somalia down to South Africa. Unusually, it also occurs in Africa north of the Sahara: it is recorded from the Canary Islands and the Mediterranean coasts of Morocco, Algeria, Egypt, Spain, France, Italy and Greece. In addition, it has been found in Australia, first in 1970, and New Zealand, first in 1981 (Fitton *et al.*, 1983).

This widespread distribution, disparate and apparently disjointed, nevertheless follows the known distribution of *Chrysodeixis chalcites* (Esper)/*C. eriosoma* (Doubleday)—the only known host (or hosts) of *Ctenochares bicolorus* (Fitton *et al.*, 1983). Although the name *C. chalcites* is often used to denote the African and south-west Palaearctic specimens and *C. eriosoma* those in the Indo-Australasian-Pacific regions, they are also sometimes treated as synonymous rather than as sister species. However, whether one or two taxa, their joint range extends across the same vast swathes of Africa (above and below the Sahara) as does *Ctenochares bicolorus*. Indeed, they also extend through the eastern end of the Mediterranean, the Persian Gulf states, the Indian subcontinent and out into most of south-east Asia, Pacific China to Japan, Australia, New Zealand and even as far as Polynesia, Hawaii and other far-flung Pacific islands.

In considering the apparent jump of *Ctenochares bicolorus* from Africa to Australia and New Zealand, Fitton *et al.* (1983) comment on the ichneumon's apparent absence from much of the supposed hosts' intermediate geographical range. However, they also note that such an ichneumonid parasite of a well-known migrant moth is quite likely to have migratory tendencies itself but they conclude that *Ctenochares bicolorus* was unlikely to have reached Australia from Africa without the help of some human agency.

Chrysodeixis chalcites is a very rare migrant to Britain, but a few specimens are recorded. Skinner (1984) lists 20 records between 1943 and 1983, mainly from the south coastal English counties, but also Essex, Glamorgan and Inverness-shire. The discovery of but a single specimen of *Ctenochares* here is frustrating. Battersea Park is already home to an oddball assortment of foreign species including the Australian

amphipod "sandhopper" *Arcitalitrus dorrieni* (Hunt) (Jones, 1999a), the Australian scarabaeid beetle *Saprosites mendax* Blackburn (Jones, 1999b), and the European tephritid fly *Rhagoletis meigenii* (Loew) (Jones, 2000).

Arcitalitrus is well established in south-west England, but almost certainly arrived at Battersea as a hitch-hiker in soil or leaf-litter associated with horticultural material. *Saprosites* has been established in England (Arundel Park) since the 1930s but has arrived somehow in London in the 1980s and appears to be spreading of its own accord. The *Rhagoletis* is potentially a "natural" arrival, since it occurs widely on the Continent and its European foodplant (barberry, *Berberis vulgaris* L.) is a native (albeit uncommon) British species; however it was found in Battersea associated with *Berberis thunbergii* DC, a Japanese shrub widely planted in parks and gardens, so might equally be an unwitting import with plant material.

Until further specimens of *Ctenochares* are found, it is difficult to establish how it arrived here or what it was doing flying around an island in Battersea Park. It is possible that, in Britain it will parasitize some other plusiine moth; Fitton *et al* (1983) report specimens of *Ctenochares rufithorax* (Kreichbaumer) reared from *Thysanoplusia orichalcea* (Fab.) in Kenya. A jump from southern Europe to South London is much less of a journey than from South Africa to Sydney, but unless further specimens are found, perhaps parasitizing other noctuid caterpillars, it must remain a rather shadowy and enigmatic species.

Oddly, my Battersea example of *Ctenochares bicolorus* is not the first specimen of this striking creature to find its way into a collection of British insects. Morley (1910) reported finding a lone female of, as it then was, *Ctenochares (Joppites) instructor* Fabricius, among the "reputed British species" of the Stephens collection in the British Museum (Natural History). Without data, and without any suggestion of a true place on the British list, Morley immediately dismissed it as a highly unlikely native species. That specimen still stands, with Morley's label now under it, incorporated into the main world ichneumon collection of London's Natural History Museum (M. Fitton, personal communication).

The Battersea specimen of *Ctenochares bicolorus* has been presented to the Natural History Museum for its "British" collection. As a late 20th century specimen, with full data attached, it will at least have some claim to the indigenous origin denied by Morley to the early 19th century Stephens example. And hopefully it will be joined by other specimens found here during the 21st century.

ACKNOWLEDGEMENTS

My thanks go to Jim Brock (Horniman Museum, London) for his advice, the loan of the Malaise trap and for his enthusiastic encouragement of my new-found interest in the ichneumonoidea, and to Mike Fitton (Natural History Museum, London) for identification and help with literature references.

REFERENCES

- Fitton, M. G., Gauld, I. D., Roberts, L. I. N. & Walker, A. K. 1983. An African ichneumonid (Hymenoptera) in Australasia. *Bulletin of Entomological Research* **73**: 465–468.
- Jones, R. A. 1999a. The terrestrial 'sandhopper' amphipod *Arcitalitrus dorrieni* and other invertebrate oddities from Battersea Park. *London Naturalist* **78**: 119–123.
- Jones, R. A. 1999b. *Saprosites mendax* Blackburn (Scarabaeidae) under sycamore logs in Battersea Park, London. *Coleopterist* **8**: 120.

- Jones, R. A. 2000. *Rhagoletis meigenii* (Loew, 1844) (Diptera: Tephritidae) rediscovered in Britain. *Entomologist's Record and Journal of Variation* **112**: 253–256.
- Morley, C. 1910. Jottings on the British Ichneumonidae in the national collection. *Entomologist* **43**: 167–174.
- Perkins, J. F. 1959. Hymenoptera: Ichneumonoidea. Ichneumonidae, key to subfamilies and Ichneumoninae I. *Handbooks for the Identification of British Insects* **7(2ai)**.
- Perkins, J. F. 1960. Hymenoptera: Ichneumonoidea. Ichneumonidae, subfamilies Ichneumoninae II, Alomyinae, Agriotypinae and Lycorininae. *Handbooks for the Identification of British Insects* **7(2aii)**.
- Skinner, B. 1984. *Colour Identification Guide to Moths of the British Isles*. Harmondsworth: Viking.

BOOK REVIEW

The Insects. An Outline of Entomology. 2nd edition. P. J. Gullan and P. S. Cranston. Blackwell Science. 2000. Softback; £26.50. ISBN 0-632-05343-7

When the 1st Edition of *The Insects* appeared, it quickly became *the* text for most general entomology courses in universities in many parts of the world. And, because it provides a mine of information for anyone wanting to widen their general knowledge and horizons, it was found to be ideal as a general text for specialists to refer to for ideas and for updates on a wide range of topics outside their field. To many, it was considered the best entomological textbook available due to its width of coverage and general slant towards the environment and evolution. The 2nd Edition is even better.

Although the book is now with different publishers and has been completely reformatted, the basic structure and layout, which had been so successful in the 1st edition, has been retained. However, the “pawprint” of the new publishers, Blackwell Science, is immediately evident because the typeface is slightly smaller and, in my view, clearer. In addition, the layout of the text in the boxes has been changed and an even smaller typeface used but, as the text in the boxes is now in “newspaper” columns, it is still quite readable. This reformatting has allowed for a slight reduction in the size of some boxes so that they now fit on a single page.

Whilst the basic layout remains the same, there have been a number of significant changes. As the authors admit in their Preface to the 2nd Edition, a book of this type cannot include everything but, in response to pressure from the users of the 1st Edition, a number of topics have now been expanded or incorporated into the previous text. For instance, a chapter on collecting, specimen preservation and curation, has been added towards the end, which will be very welcome to most users. In addition, a number of other topics have been added or expanded. Thus, they have expanded the section on insect physiology, particularly in relation to tolerance of environmental extremes and thermoregulation, and also on the control of development. In addition, certain areas of insect behaviour have been expanded, particularly that on insect–plant interactions, migration and diapause, predator avoidance, and nuptial feeding and associated topics. Further, functional feeding groups in aquatic insects and an enlarged section on insect–plant relationships have been added for the ecologically minded. Another significant change is that the summary tables of diagnostic features have been moved from near the front to after the Index, thus facilitating quick reference. I was also pleased to note that at least one error in the 1st Edition had been corrected—the use of a sticky globule on the